

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-1 Notwithstanding Verizon's contractual obligation to use only Alcatel-licensed line cards with Litespan 2000 Remote Terminal equipment, does Alcatel have a process to certify other manufacturers' line cards for use with the remote terminal equipment that Verizon proposes to use? If so, please describe that procedure.

REPLY: Yes. It is Verizon's understanding that Alcatel develops technology license agreements with other manufacturers as part of the Alcatel Access Partnering Program ("AAPP"). Under this process, a third party vendor is licensed by Alcatel to "manufacture" a specific card for use in the Alcatel Litespan 2000 system. This requires joint development of the hardware between Alcatel and the third party vendor. In addition, Alcatel must develop any corresponding Litespan system software to support the new card functionality. This program includes Litespan 2000 "line cards," as well as other Litespan 2000 cards. Additional information and press releases on Alcatel's AAPP can be found on its website (www.alcatel.com).

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-2 Is Verizon aware of any manufacturers' remote terminal equipment that is compatible with any other manufacturer's line cards on a "plug-and-play" basis?

REPLY: Assuming that the term "remote terminal equipment" refers to Next Generation Digital Loop Carrier ("NGDLC") equipment, Verizon is aware of manufacturers, including Alcatel, who have entered into licensing agreements with third parties to manufacture specific "line cards" as described in Verizon MA's Reply to DTE 3-1. Verizon is not aware of any NGDLC equipment that is currently compatible with non-licensed line cards at this time.

VZ # 1217

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-3 Under the CLEC-Provided Line Card Option in Verizon's illustrative PARTS tariff, please discuss the feasibility of permitting CLECs to install Alcatel-developed line cards, as described in the Testimony of Larry Gindlesberger and Michael Clancy on Behalf of Covad Communications Company, at 13-14, in order to support services such as Symmetric DSL under the G.SHDSL standard, or ATM Quality of Service. Describe what provisioning activities are necessary and what additional equipment must be installed, if any.

REPLY: The work steps and costs associated with the CLEC-provided line card option, which are described in Verizon-MA's Direct Testimony at pages 19-21, are incremental to the work activities and costs relating to Verizon MA's illustrative PARTS offering.

As explained in its testimony, Verizon MA cannot technically support the CLEC-provided line card option until it deploys technology required for PARTS, where Verizon-MA would provide the line cards. In particular, Verizon-MA does not currently have in its network in Massachusetts the necessary Operating Support Systems ("OSS") to inventory, administer, provision, etc. the PARTS offering or a CLEC-provided line card option. Likewise, Verizon MA would need to modify its order entry systems, provisioning systems, maintenance and repair systems, inventory management systems, billing systems, and engineering and planning tools, etc. to support PARTS and the CLEC-provided line card option. This results in increased costs and inefficiencies, as described in Verizon MA's Direct Testimony (pp.

19-22 and Rebuttal Testimony (pp. 10-12).

VZ # 1218

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-4 Who develops the “software releases” for Litespan 2000 equipment?

REPLY: It is Verizon’s understanding that software releases associated with the Litespan 2000 product are developed by the manufacturer, *i.e.*, Alcatel. These software releases may be related to new feature introduction by the manufacturer or may be “maintenance” releases to correct known deficiencies.

VZ # 1219

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki

Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-5 For remote terminal locations in Massachusetts, please state:

- a. the total number of remote terminal locations;
- b. the total number of customers served by those remote terminal locations;
- c. the number of remote terminal locations where all-copper transports from the customer to the central office are alternatively available to customers currently served by remote terminals at those locations upon request by an CLEC;
- d. the number of remote terminal locations where dark fiber transport would be available from the remote terminal location to the corresponding central office upon request by a CLEC.

- REPLY:**
- a. The total number of remote terminal locations in Massachusetts is 3,549.
 - b. The total number of working lines served by these remote terminals are 807,939. The total number of customers is not readily available and would require a time-consuming, manual work effort to extract that information.
 - c. The information requested is not readily available and would require a special study, which would involve an overly burdensome, time-consuming site survey of all 3,549 Massachusetts remote terminal locations.
 - d. See Verizon MA's Reply to (c) above.

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-6 Refer to the pre-filed testimony of Paul Richard and Michael Nawrocki at 9 (May 22, 2001)(“PARTS Testimony”). For remote terminal locations in Massachusetts, state:

- a. the number of remote terminal locations equipped with a Litespan 2000 NGDLC bay;
- b. the number of remote terminal locations where DSL-capable line cards (“ADLU”) are deployed;
- c. the number of remote terminal locations where ATM Bank Control Units (“ABCU”) cards are deployed;
- d. the number of remote terminal locations where Software Release 10.2.2 is deployed;
- e. the number of remote terminal locations where spare fiber is available to provide the PARTS OC-3c data transport from the RT to the central office; and
- f. the number of remote terminals locations that would require new or reconfigured RT structures in order to house NGDLC electronics. If not all locations have been surveyed, please provide the number of locations surveyed and the number that would require new or

reconfigured RT structures.

REPLY:

- a. The number of Verizon remote terminal locations in Massachusetts equipped with Litespan NGDLC equipment is 1,465.

-2-

REPLY: DTE-VZ 3-6
(cont'd)

- b. There are no Verizon remote terminal locations in Massachusetts equipped with DSL-capable line cards (ADLUs).
- c. There are no Verizon remote terminal locations in Massachusetts equipped with ATM Bank Control Units (ABCUs).
- d. There are currently three (3) Litespan NGDLC systems operating with Alcatel Software Release 10.2.2 in Massachusetts.
- e. The information requested is not readily available and would require a special study, which would involve an overly burdensome, time-consuming site survey of all Massachusetts remote terminal locations.
- f. See Verizon MA's Reply to (e) above.

VZ # 1221

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-7 Has Verizon tested or deployed DSLAMs at remote terminals? If so, where?

REPLY: Verizon MA has not tested or deployed any DSLAMs at remote terminals.

VZ # 1222

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-8 Can xDSL be provided to customers served by remote terminals that are not equipped with NGDLC equipment? If so, please describe the manner in which xDSL service can be provided.

REPLY: Verizon cannot provide xDSL services using NGDLC equipment or other alternative technologies at this time.

Notwithstanding this restriction, data providers choosing to offer xDSL services could collocate DSLAMs at the remote terminal (if space is available) or could place stand-alone cabinets equipped with DSLAM electronics. In some cases, line station transfers may be utilized to allow data providers to provision xDSL to copper loops (assuming facilities are available and the loop will support the specific xDSL technology requested.) Finally, although some manufacturers claim to have developed products for certain “legacy” digital loop carrier systems that replace existing cards, Verizon has no plans to deploy such systems at this time.

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-9 Does Verizon claim any proprietary interest over the equipment, processes, or elements necessary to provision the services described in the illustrative PARTS tariff? If so, please describe that interest with specific reference to each equipment, process, or element claimed as proprietary.

REPLY: No. Verizon does not claim any proprietary interest over the equipment, processes, or elements necessary to provision the services described in the illustrative PARTS tariff. However, Verizon is not at liberty to discuss or disclose any vendor equipment specifications that are considered proprietary by Verizon's third party vendors.

VZ # 1224

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-10 If customers who currently are served by fiber-fed loops are migrated to all-copper loops between the central office and the customers' demarcation points:

- (a) What types of xDSL connections are commercially feasible for a CLEC to provide to such customers?
- (b) What are the maximum upstream and downstream transmission rates that could be provided over such all-copper loops? What factors affect those rates?

REPLY:

- (a) XDSL technologies are designed to operate using these all copper connections. Accordingly, any commercially available xDSL technology that meets industry standards for interference and safety would be eligible for this type of connection.
- (b) These rates vary by technology, loop length and gauge of copper cable. The actual downstream and upstream data rates achieved on a particular loop depend upon the performance of the data provider's modem with the electrical characteristics (length, bridged tap, noise, etc.) associated with the loop. Thus, the maximum rates would depend on what type of DSL technology the data provider chooses to use, as well as all of the other physical plant considerations noted above.

VZ # 1225

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-12 How much time would be required to convert a customer from a fiber-fed loop to provide xDSL access over an all-copper loop from the customer's demarcation point to the CLEC's collocation point when requested by the CLEC?

REPLY: The normal interval for line sharing in Massachusetts is three business days. Where a "line and station transfer" is required, the interval for line sharing is six business days.

VZ # 1227

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-13 How much time would be required to provide access over dark fiber from a remote terminal location to the CLEC's collocation point when requested by a CLEC?

REPLY: The interval for providing UNE dark fiber between a CLEC's existing collocation arrangement at an RT and the CLEC's existing collocation arrangement in the serving wire center is 30 business days from receipt of a complete Access Service Request ("ASR").

VZ # 1228

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-14 Please provide an estimate of:

- (a) the cost of collocating a CLEC DSLAM at a remote terminal location;
and
- (b) the time required to collocate a CLEC DSLAM at a remote terminal
location.

REPLY: Because Verizon MA has had no experience with provisioning collocation at remote terminals ("RT"), the information requested is not readily available. Moreover, the costs and time required to complete the necessary activities may vary greatly based on specific RT characteristics.

VZ # 1229

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-15 Describe the differences between the Operating Support Systems (“OSS”) necessary to support packet switching in fiber-fed networks versus all-copper networks.

REPLY: The OSSs that would be used to support a potential PARTS offering in Massachusetts using a fiber-fed architecture (rather than an all-copper network) must perform certain provisioning, surveillance, fault management and performance monitoring functions. The following describes all of the OSS related activities that must be completed to provide PARTS.

Provisioning includes processing the request for service, managing assignable inventory, and activating the service. To process the service request and manage the assignable inventory, eight existing OSSs have to be enhanced, loaded and tested end-to-end. In addition, because the Optical Concentration Device (“OCD”) could not be inventoried in a cost effective manner under Verizon’s existing OSSs, the Company would need to develop a new version of its Broadband Activation, Assignment and Inventory System (“BAAIS”) for this purpose. Both the enhancements to the eight existing OSSs and the development of BAAIS are significant and costly undertakings.

Surveillance includes monitoring of alarms and error messages from the DS3, OC3, and or OC3c transport facilities that support the interconnection between Digital Loop Carrier Remote Terminals (“RT”) and the OCD

located in the serving wire center. Surveillance for

-2-

REPLY: DTE-VZ 3-15
(cont'd)

PARTS also includes monitoring of the OCD in designated switching control centers. Although there are no identifiable enhancements needed for the existing OSSs, Verizon would be required to incorporate the new service components and their associated alarms into the existing OSSs and conduct subsequent testing to validate the accuracy of those system modifications.

Fault Management includes the ability to remotely diagnose and potentially reconfigure and restore a customer's service. The scope of the existing OSSs will be expanded to include the OCD and subsequently tested to validate the accuracy of the additional maintenance commands.

Performance includes the collection of traffic data, *e.g.*, bits rates, lost packets, burstiness etc., and server performance measurements. Adding these measurements to existing OSSs would require significant work efforts and costs to collect, store, report and analyze all of this data.

VZ # 1230

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-19 Are line cards for the provision of xDSL-based services equipment
“necessary” for the provision of advanced services? If not, why not?

REPLY: Integrated POTS/ADSL line cards as part of NGDLC equipment are one
method of provisioning advanced services. Data providers could also choose
other technologies for provisioning advanced services, including stand-alone
DSLAMs, cable modems, broadband wireless and digital satellite
technology.

VZ # 1234

**Verizon New England Inc.
D/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-20 Please address whether each of the four conditions of 47 C.F.R. § 51.319(c)(5)¹ specifically are met, stating all facts relied upon in providing your answer:

- (i) Has Verizon deployed digital loop carrier systems in Massachusetts, including but not limited to, integrated digital loop carrier or universal digital loop carrier systems, or any other system in which fiber optic facilities replace copper facilities in the distribution section (e.g., end office to remote terminal, pedestal or environmentally controlled vault)?
- (ii) Are spare copper loops available which are capable of supporting xDSL services that the requesting carriers seek to offer?
- (iii) Has Verizon not permitted a requesting carrier to deploy a Digital Subscriber Line Access multiplexer in the remote terminal, pedestal or environmentally controlled vault or other interconnection point? Has the requesting carrier not obtained a virtual collocation arrangement at subloop interconnection points as defined by 47 C.F.R. § 51.319(b)?
- (iv) Has Verizon deployed packet switching capability for its own use?

¹ This section is cited in the Department's previous 98-57 Phase III orders, as well as in the FCC's UNE Remand Order, as 47 C.F.R. § 51.319(c)(3)(B), but has since been promulgated as 47 C.F.R. § 51.319(c)(5).

REPLY:

- (i) Yes. Verizon MA has deployed some DLC in Massachusetts.

-2-

REPLY: DTE-VZ 3-20

(cont'd)

- (ii) In many locations where DLC is deployed, there are spare copper loops available that are capable of supporting the xDSL services that the requesting carriers seek to offer. Such spare copper loops can be accessed through Verizon MA's "line and station transfer" offering.
- (iii) Verizon MA has not received any requests for RT Collocation (virtual or physical) or sub-loop interconnection in Massachusetts. Accordingly, Verizon-MA has never refused a requesting carrier to deploy a Digital Subscriber Line Access multiplexer in the remote terminal, pedestal or environmentally controlled vault or other interconnection point.
- (iv) Verizon MA has not deployed packet switching for its own use.

As indicated in Covad's Direct Testimony, the FCC's four-part test for unbundling packet switching at an RT applies on a case-by-case basis. That test, which has been applied in other jurisdictions, is consistent with the FCC's customer-by-customer or site-by-site evaluation of unbundled circuit switching where, in some cases, such switching is not considered a UNE to end users purchasing four or more lines. *See e.g., FCC UNE Remand Order*, ¶253. None of Verizon MA's RT locations meet the FCC criteria for unbundled packet switching at this time.

VZ # 1235

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-21 What percentage of Verizon's loops in Massachusetts are served by DLC technology?

REPLY: Approximately 17.7% of Verizon "working lines" in Massachusetts are served by DLC technology.

VZ # 1236

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Michael A. Nawrocki
Title: Principal Member Technical Staff –
Technology/Wholesale Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-22 What percentage of Verizon's lines are served by NGDLC? What percentage of these NGDLC are compatible with line card collocation?

REPLY: Approximately 7.3% of Verizon working lines in Massachusetts were served by NGDLC at the end of year 2000. It is Verizon's view that none of these NGDLC lines are compatible with a CLEC-provided line card option. That view is shared by other industry experts, such as Alcatel, as referenced in Verizon MA's Rebuttal Testimony (p. 21). Alcatel has addressed this issue by stating that plugging-in a card "wouldn't necessarily do anything" unless the correct software, related hardware and necessary operations functions have been enabled to support the new line card.

**Verizon New England Inc.
d/b/a Verizon Massachusetts**

Commonwealth of Massachusetts

D.T.E. 98-57, Phase III

Respondent: Paul R. Richard
Title: Senior Specialist – Wholesale
Services

REQUEST: Department of Telecommunications and Energy, Set #3

DATED: September 17, 2001

ITEM: DTE-VZ 3-23 Explain if the Department did not require Verizon to collocate CLEC line cards in RTs, whether CLECs would be precluded, as a practical, economic, or operational matter, from obtaining interconnection or access to UNEs necessary to provide DSL service to customers served by fiber fed loops.

REPLY: No. As discussed in Verizon MA's Direct Testimony (pp. 13, 27) and its Reply to DTE 3-8, the Company makes available to CLECs tariffed service offerings, *i.e.*, line and station transfers (to provide access to available copper) and sub-loop interconnection, that allow a Data LEC ("DLEC") to provide DSL service to customers served by fiber fed loops. A CLEC-provided line card option collocation does not provide any new or additional capabilities from the potential PARTS offering and would result in increased industry costs.

